

Date: Sun, 30 Jan 94 04:30:34 PST
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #13
To: Ham-Space

Ham-Space Digest Sun, 30 Jan 94 Volume 94 : Issue 13

Today's Topics:

 ARLS003 New OSCAR on soon
 Daily IPS Report - 28 Jan 94
 InstantTrack Fix
 New Meteor? Where?
 question about a calculation of satellite orbit
 Weekly IPS Report - 28 Jan 94

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Wed, 26 Jan 94 13:34:57 EDT
From: unix.sri.com!headwall.Stanford.EDU!agate!howland.reston.ans.net!
sol.ctr.columbia.edu!destroyer!nntp.cs.ubc.ca!alberta!ve6mgs!usenet@hplabs.hp.com
Subject: ARLS003 New OSCAR on soon
To: ham-space@ucsd.edu

SB SPACE @ ARL \$ARLS003
ARLS003 New OSCAR on soon

ZCZC AS47
QST de W1AW
Space Bulletin 003 ARLS003

Date: 28 Jan 94 02:23:11 GMT
From: cs.utexas.edu!sdd.hp.com!think.com!cass.ma02.bull.com!syd.bull.oz.au!

brahman!tmx!basser.cs.su.oz.au!metro!news.ci.com.au!eram!dave@rutgers.rutgers.edu
Subject: Daily IPS Report - 28 Jan 94
To: ham-space@ucsd.edu

IPS RADIO AND SPACE SERVICES AUSTRALIA
Daily Solar And Geophysical Report
Issued at 2330 UT 27 January 1994
Summary for 27 January and Forecast up to 30 January
IPS Warning 02 was issued on 24 Jan and is still current.

1A. SOLAR SUMMARY

Activity: moderate

Flares	Max	Fadeout	Begin	End	Freq.	Sectors
M2/SN	0510UT	confirmed	0508UT	0540UT	lower	E. Asia/Aust.

Observed 10.7 cm flux/Equivalent Sunspot Number : 120/072

1B. SOLAR FORECAST

	28 January	29 January	30 January
Activity	Low to moderate	Low to moderate	Low to moderate
Fadeouts	Possible	Possible	Possible

Forecast 10.7 cm flux/Equivalent Sunspot Number : 120/072

1C. SOLAR COMMENT

None.

2A. MAGNETIC SUMMARY

Geomagnetic field at Learmonth : unsettled with active levels from 15-18UT

Estimated Indices :	A	K	Observed A Index 26 January
Learmonth	13	3233 3332	
Fredericksburg	15		17
Planetary	22		17

2B. MAGNETIC FORECAST

DATE	Ap	CONDITIONS
28 Jan	18	Mostly unsettled with an isolated active period.
29 Jan	12	Quiet to unsettled.
30 Jan	08	Quiet to unsettled.

2C. MAGNETIC COMMENT

None.

3A. GLOBAL HF PROPAGATION SUMMARY

LATITUDE BAND

DATE	LOW	MIDDLE	HIGH
27 Jan	fair-normal	fair-normal	fair-normal

PCA Event : None.

3B. GLOBAL HF PROPAGATION FORECAST

LATITUDE BAND

DATE	LOW	MIDDLE	HIGH
28 Jan	fair-normal	fair-normal	fair-normal
29 Jan	normal	fair-normal	fair-normal
30 Jan	normal	fair-normal	normal

3C. GLOBAL HF PROPAGATION COMMENT

Chance of fadeout on daylight circuits.

4A. AUSTRALIAN REGION IONOSPHERIC SUMMARY

MUFs at Sydney were mostly 15-30% above monthly predicted values, and 30-50% above from 08-10UT and 13-14UT. Sporadic E may have affected F layer communications during daylight hours. A fadeout in response to the M2 flare occurred from 0508-0540UT.

T index: 81

4B. AUSTRALIAN REGION IONOSPHERIC FORECAST

DATE	T-index	MUFs
28 Jan	45	Near predicted to 20% enhanced.
29 Jan	45	Near predicted to 20% enhanced.
30 Jan	45	Near predicted to 20% enhanced.

Predicted Monthly T Index for January is 30.

4C. AUSTRALIAN REGION COMMENT

Sporadic E may affect F layer communications, particularly during daylight hours. Chance of fadeout on daylight circuits.

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Dave Horsfall (VK2KFU)	VK2KFU @ VK20P.NSW.AUS.OC	PGP 2.3
dave@esi.COM.AU	...munari!esi.COM.AU!dave	available

Date: 29 Jan 1994 23:12:58 GMT

From: library.ucla.edu!agate!howland.reston.ans.net!torn!news.ccs.queensu.ca!
news.rmc.ca!somers@network.ucsd.edu

Subject: InstantTrack Fix

To: ham-space@ucsd.edu

Some time ago, a fix for InstantTrack appeared on BBSs to fix the problem of the new checksums in 2-line elsets. I got the fix from a BBS and applied it and it worked fine. However, I recently reloaded my InstantTrack and realized I cannot find the "fix" program. Anyone know of an Internet or BBS location where I could get it. Thanks.

Date: Sat, 29 Jan 94 21:47:00 +0200
From: usc!elroy.jpl.nasa.gov!swrinde!cs.utexas.edu!howland.reston.ans.net!pipex!
sunic!trane.uninett.no!news.eunet.no!nuug!news.eunet.fi!gate.compart.fi!compart!
leo.wikholm@network.ucsd.edu
Subject: New Meteor? Where?
To: ham-space@ucsd.edu

According to AW&ST the new Meteor 3 satellite will be launched in the end of January. Does anyone know when was this launch happened and what is the frequency of the satellite?

Leo Wikholm
e-mail: leo.wikholm@compart.fi

Date: 24 Jan 1994 15:19:49 -0800
From: usc!howland.reston.ans.net!cs.utexas.edu!swrinde!sgiblab!sgigate.sgi.com!
olivea@apple.com!amd!amdaahl!hip-hop.sbay.org!not-for-mail@network.ucsd.edu
Subject: question about a calculation of satellite orbit
To: ham-space@ucsd.edu

The question is at end. Here is the description of the problem I am having.

I was trying to calculate the longitude for oscar 21. I got the following formulas from a friend of mine.

$$\text{Lon}[W] = \{[(JxR-D)x24+6.6285792]*15\}-R\text{Ax}$$

Where J is the julian day (in days) with out year, that is, something like 24.8777day. R is the earth rotation rate 1.002737851 rev/day. D is the integral value of JxR. (JxR-D)x24+6.6285792 is the Greenwich Sidereal Time (GST) in hours, thus [(JxR-D)x24+6.6285792]*15 is GST in degrees. RAx is the RA at current time.

$$R\text{Ax} = R\text{A0} + [Jx-J0]x(d(R\text{A})/dt)$$

RA0 and J0 are the RA and Julian day at epoch. d(RA)/dt is the rate of change of RA.

Here are my calculations:

At PST time 12:00, or UTC time 20:00 today (UTC date Jan 24),
the Julian day (UTC) is

25.83333

therefore I calculated $(JxR-D)*24+6.6285792$, GST in hours, to be

28.32605

subtracting since it is greater than 24, I subtracted 24 from it,
and got

4.32605

multiply by 15 I got

64.89070

which is the GST in degrees.

Then I calculated the RAx. I used the data (got from the net) with
epoch 94019.17209926. RA at that point is 252.9794.

In order to calculate $d(RA)/dt$, I had to find the data with epoch
94012.62069919. RA at that point is 257.8282.

Thus the $d(RA)/dt$ is approximately

$$(252.9794-257.8282)/(19.17209926-12.62069919) = -0.74012$$

Therefore the RAx at 25.83333 would be

$$252.9794 + (25.83333-19.17209926)x(-0.74012) = 248.049312108.$$

Now the lon[w] should be the difference between GST in degrees and
RAx.

$$\text{GST in degrees} - \text{RAx} = 64.89070 - 248.049312108 = -183.15861 \\ \text{degree W.}$$

So here is the problem, my tracking software, PCTRACK, predicted a
lon of 145.1 east.

I don't see a correlation between the two numbers. Did I use the
wrong formula? Are the formulas the same for all sat? Is Oscar 21

somewhat different?

All information, answers are welcome.

Thanks

Benjie

Date: 28 Jan 94 02:24:05 GMT
From: cs.utexas.edu!sdd.hp.com!think.com!cass.ma02.bull.com!syd.bull.oz.au!
brahman!tmx!basser.cs.su.oz.au!metro!news.ci.com.au!eram!dave@rutgers.rutgers.edu
Subject: Weekly IPS Report - 28 Jan 94
To: ham-space@ucsd.edu

21 JANUARY - 27 JANUARY 1994

Issue No 04

Date of issue: 28 January, 1994

INDICES:

Date	21	22	23	24	25	26	27
10cm	111	113	118	129	132	128	120
A	07	09	07	03	05	17	(15)
T	38	53	75	73	82	56	81

SUMMARY OF ACTIVITY

January 21

Solar activity was very low.

The geomagnetic field at Learmonth (WA) was quiet to unsettled.

Ionospheric F2 critical frequencies at Sydney were near predicted monthly values.

January 22

Solar activity was low.

The geomagnetic field at Learmonth (WA) was quiet to unsettled.

Ionospheric F2 critical frequencies at Sydney were slightly above predicted monthly values.

January 23

Solar activity was low.

The geomagnetic field at Learmonth (WA) was quiet to unsettled.

Ionospheric F2 critical frequencies at Sydney were about 15% above predicted monthly values.

January 24

Solar activity was low.

The geomagnetic field at Learmonth (WA) was quiet.

Ionospheric F2 critical frequencies at Sydney were about 15% above predicted monthly values.

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January 25

Solar activity was moderate, with an M1/1N flare at 1836UT.

The geomagnetic field at Learmonth (WA) was quiet.

Ionospheric F2 critical frequencies at Sydney were 15-30% enhanced 00-14 UT, then near predicted monthly values.

January 26

Solar activity was moderate, with an M1/0F flare at 0136UT.

The geomagnetic field at Learmonth (WA) was mostly unsettled with active periods from 06-09UT and 12-15UT.

Ionospheric F2 critical frequencies at Sydney were near predicted with 15-40% enhancements from 09-14UT and at 18UT.

January 27

Solar activity was moderate, with an M2/0N flare at 0510UT.

The geomagnetic field at Learmonth (WA) was unsettled with active levels from 15-18UT.

Ionospheric F2 critical frequencies at Sydney were mostly 15-30% above monthly predicted values, 30-50% above from 08-10UT and 13-14UT. Sporadic E may have affected F layer communications during daylight hours. A fadeout in response to the M2 flare occurred from 0508-0540UT.

FORECAST FOR THE NEXT WEEK (28 - 3 FEBRUARY)

SOLAR: Low to moderate

GEOMAGNETIC: Quiet to unsettled

IONOSPHERIC: Near predicted to 20% above monthly predicted values.
Possibility of fadeouts on daylight circuits.

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...muninari!esi.COM.AU!dave

PGP 2.3
available

Date: (null)

From: (null)

SB SPACE ARL ARLS003
ARLS003 New OSCAR on soon

New Oscar on soon

Amateur satellite Korean Oscar 25 (K0-25) is expected to be available for use beginning about February 1. The satellite, launched last fall and originally designated KITSAT-B, has been under test since then.

K0-25 is a 9600 bit/s packet store-and-forward satellite similar to K0-23, with uplinks on 2 meters and downlinks on 70 cm.

K0-25's builder, the Korean Advanced Institute of Science and Technology (KAIST), thanks potential users of the satellite for their cooperation up to now in not attempting to use the K0-25 BBS.

The Institute said that testing is expected to continue after February 1, and there may be interruptions of service, but they are not expected to cause any 'serious problems.'

'We hope you enjoy our new star in space,' said Hyungshin Kim of KAIST.

More information on K0-25 was in October 1993 QST, page 98.

NNNN
/EX

End of Ham-Space Digest V94 #13
